## CLAIMS

What is claimed is:

1. A delay module, comprising:

a signal quality detector configured to detect a signal quality between a power supply line and a system component;

a delay generator configured to generate a delay in response to the signal quality detector detecting an insufficient signal quality, the signal quality detector being further configured to again detect the signal quality between the power supply line and the system component upon expiration of the delay; and

a switch configured to selectively close upon the signal quality detector detecting sufficient signal quality.

2. The delay module of claim 1, wherein the delay generator performs an iteration of the delay generation each time the signal quality detector detects insufficient signal quality.

3. The delay module of claim 2, wherein the delay is randomly selected between 0 and $2^{n-1}T$ where n is an iteration number and T is a period from which a delay is selected on a first iteration of generating the delay.

4. The delay module of claim 1, wherein the switch disconnects the power supply line from the system component upon the signal quality detector detecting insufficient signal quality.

5. The delay module of claim 1, wherein signal quality detector detects the insufficient signal quality if the signal quality on the power supply line is less than a threshold signal quality.

6. The delay module of claim 1, further comprising a timer configured to await the delay and to cause the signal quality detector to again detect the signal quality upon expiration of the delay.

7. The delay module of claim 1, wherein the system component is a disk drive.

8. A system, comprising:

a power supply line;

at least one delay module, each delay module including:

a signal quality detector configured to detect a signal quality between the power supply line and a system component;

a delay generator configured to generate a delay in response to the signal quality detector detecting an insufficient signal quality, the signal quality detector being further configured to again detect the signal quality between the power supply line and the system component upon expiration of the delay; and

a switch coupled configured to close upon the signal quality detector detecting sufficient signal quality; and

at least one system component each coupled to the power supply line via a corresponding one of the at least one delay module.

9. The system of claim 8, wherein each delay generator performs an iteration of the delay generation each time the corresponding signal quality detector detects insufficient signal quality between the power supply line and the corresponding system component.

10. The system of claim 9, wherein the delay is randomly selected between 0 and $2^{n-1}T$ where n is an iteration number and T is a period from which a delay is selected on a first iteration of generating the delay.

11. The system of claim 8, wherein the switch of the delay module disconnects the power supply line from the corresponding system component upon the corresponding signal quality detector detecting insufficient signal quality between the power supply line and the corresponding system component.

12. The system of claim 8, wherein the signal quality detector detects the insufficient signal quality if the signal quality on the power supply line is less than a threshold signal quality.

13. The system of claim 8, wherein the signal quality detector detects the insufficient signal quality if the signal quality on the power supply line is unstable during a predetermined period of time by comparing a current signal quality and a delay signal quality.

14. The system of claim 8, wherein each delay module further includes a timer configured to await the delay and to cause the signal quality detector to again detect the signal quality upon expiration of the delay.

15. The system of claim 8, wherein each of the system components is a disk drive.

16. A power management apparatus, comprising:

signal quality detecting means for detecting signal quality on a power supply line;

delay generating means for generating a delay in response to the signal quality detecting means detecting insufficient signal quality, the signal quality detecting means for again detecting the signal quality on the power supply line upon expiration of the delay generated by the delay generating means;

switching means for one of disconnecting to the power supply line upon the signal quality detecting means detecting insufficient signal quality and connecting to the power supply line upon the signal quality detecting means detecting sufficient signal quality.

17. The power management apparatus of claim 16, wherein the delay generating means performs an iteration of the delay generation each time the signal quality detector detects insufficient signal quality.

18. The power management apparatus of claim 17, wherein the delay generating means is for generating a random delay between 0 and $2^{n-1}T$ where n is an iteration number and T is a period from which a random delay is generated on a first iteration of generating the random delay.

19. The power management apparatus of claim 16, wherein the switching means disconnects to the power supply line upon the signal quality detecting means detecting insufficient signal quality on the power supply line.

20. The power management apparatus of claim 16, wherein signal quality detecting means detects the insufficient signal quality if the signal quality on the power supply line is less than a threshold signal quality.

21. The power management apparatus of claim 16, wherein signal quality detecting means detects the insufficient signal quality if the signal quality on the power supply line is unstable during a predetermined period of time by comparing a current signal quality and a delay signal quality.

22. The power management apparatus of claim 16, further comprising a timing means to await the delay and to cause the signal quality detector to again detect the signal quality upon expiration of the delay.

23. The power management apparatus of claim 16, wherein the system component is a disk drive.

24. A method for power management, comprising:

detecting a power signal quality between a power supply line and a power-utilizing component;

generating a delay in response to detecting an insufficient signal quality, the detecting being repeated upon expiration of the delay; and

switching to one of disconnect the power supply line to the power-utilizing component upon the detecting of insufficient signal quality and connect the power supply line to the power-utilizing component upon the detecting of sufficient signal quality.

25. The method of claim 24, wherein an iteration of the generating the delay is performed each time the detecting detects insufficient signal quality.

26. The method of claim 25, wherein the delay is randomly selected between 0 and $2^{n-1}T$ where n is an iteration number and T is a period from which a random delay is generated on a first iteration of generating the random delay.

27. The method of claim 24, wherein the switching includes disconnecting the power supply line from the power-utilizing component upon the detecting of insufficient signal quality.

28. The method of claim 24, wherein the detecting detects insufficient signal quality if the signal quality on the power supply line is less than a threshold signal quality.

29. The method of claim 24, wherein the detecting detects unstable signal quality during a predetermined period of time by comparing a current power signal and a delay power signal.

30. The method of claim 24, further comprising awaiting the delay and upon expiration of the delay, repeating the detecting of the signal quality between the power supply line and the power-utilizing component.

31. The method of claim 24, wherein the power-utilizing component is a disk drive.

32. A resource management system, comprising:

a delay module, including:

a resource detector configured to detect a resource supply quality between a resource supply and a resource receiving component;

a delay generator configured to generate a delay in response to the resource detector detecting an insufficient resource supply quality, the resource detector being further configured to again detect the resource supply quality between the source supply and the resource receiving component upon expiration of the delay; and

a switch configured to selectively close upon the resource detector detecting sufficient resource supply.

33. The resource management system of claim 32, further comprising a plurality of the resource receiving components and a plurality of the delay modules, each resource receiving component corresponding to one of the delay modules.

34. The resource management system of claim 32, wherein the delay generator is a random delay generator configured to generate a random delay.

35. A method for resource management, comprising:

detecting a resource supply quality between a resource supply line and a resource-utilizing component;

disconnecting the resource-utilizing component from the resource supply line upon detecting an insufficient resource supply quality;

generating a delay upon detecting the insufficient resource supply quality, the detecting being repeated upon expiration of the delay; and

connecting the resource-utilizing component to the resource supply line upon the detecting of sufficient resource supply quantity.